

California Energy Commission



Hearing on Report to Governor: ***Evaluation of*** ***Biomass-to-Ethanol*** ***Fuel Potential in California***

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Purpose of Today's Presentation

- Provide recap of what has happened since September 10, 1999 Workshop
- Discuss changes made to August draft report
- Present the major findings & conclusions of the October report
- Present the recommendations to foster biomass-to ethanol development
- Identify next steps and finally,
- Obtain comments and input on draft report

Governor Davis Executive Order



Executive Order D-5-99 (Item 11)

- Evaluate the potential for development of a California waste-based or other biomass ethanol industry in California and,
- Evaluate what steps, if any, would be appropriate to foster waste-based or other biomass ethanol development in California should ethanol be found to be an acceptable substitute for MTBE.

Recap of September 10 Workshop



- Over 40 people attended
- Eighteen presentations delivered
- Workshop Comments:
 - Hearing transcripts available on Web Site
 - Summary in appendices to report



What Was Said at Workshop?

- A biomass policy is needed.
- There is a need for public funding to help ethanol industry gain a foothold.
- Public benefits ought to be better quantified.
- Ethanol potential for municipal solid waste and economics of collocating with municipal refuse facilities is not adequately addressed.
- Global climate change and potential role of ethanol needs further discussion.

What Changes Were Made to August Report?



- Combined Executive Summary and Introduction :
 - Expanded list of key findings and recommendations
- Added new sections on:
 - President Clinton's Bio-based Products Executive Order
 - Requirements for siting a biomass-to-ethanol facility in California
- Developed steps to foster ethanol development

What Changes Were Made to August Draft Report? Cont d



- Other areas expanded and clarified include:
 - 10% diversion credit
 - Federal and state taxation for ethanol production
 - Global Climate Change impacts from biomass to ethanol production
 - Discussion of existing biomass power plants
 - Collocation of MRFs with ethanol facilities



Major Findings & Conclusions

- Ethanol fuel produced from waste and residual materials offers potential for meeting the state's oxygenated gasoline needs.
- As a renewable fuel, biomass-to-ethanol fuel production offers potential energy, environmental and economic benefits.
- Creating a viable in-state ethanol industry to capture these benefits, however, poses a major challenge.
- The cost of producing ethanol remains high, requiring continued government price support to make it a competitive fuel additive.



Major Findings & Conclusions

- Developing a California ethanol industry will also require a state government role to overcome economic, technical and institutional barriers and uncertainties.
- California-produced ethanol fuel will face stiff competition from out-of-state ethanol supplies and in-state petroleum products
- Commercializing new technologies for converting biomass to ethanol raises uncertainties and presents challenges that must be overcome to foster and nurture a commercial ethanol industry in California.



Major Findings & Conclusions

- The lack of commercial experience with biomass-to-ethanol conversion in California and elsewhere suggests that the state would be prudent to co-fund the first several production facilities as part of a near term demonstration effort.
- A demonstration would be particularly valuable to gain insight into the actual benefits and drawbacks to siting, building and operating such facilities in California.



Major Findings & Conclusions

- Developing a clear biomass-to-ethanol state policy to guide and coordinate actions can help reduce the many challenges that exist in developing this industry.
- Supporting activities to encourage the production and use of ethanol fuel as a renewable energy source complements California's ongoing efforts to develop transportation energy alternatives.

Recommendations to Foster Biomass-to-Ethanol Development in California



Energy Commission staff recommends that the state take several actions to develop a longer-term state policy and other strategies.

These actions are broken into 4 categories:

- Policy
- Research, development and demonstration
- Market development and commercialization
- Further study needs



Policy Recommendations

- Develop and adopt a biomass-transportation fuels energy policy, which is consistent with the Energy Commission goals for the transportation sector.
- Consider adopting carbon reduction goals.
- Study and, if possible, propose adopting fuel diversity goals for California's motor vehicles.

Policy Recommendations Cont d



- Develop, adopt and periodically review a position on the long-term need for the federal alcohol fuels subsidy, as it would effect the emergence of a biomass-to-ethanol or biomass-to-transportation fuels industry in California
- Consider changing the 10% waste diversion credit limit that applies to transformation technologies



RD&D Recommendations

- Pursue joint funding opportunities that support demonstrations of several biomass-to-ethanol projects in the state.
- Develop and share the cost of a program through a private/public partnership directed at improving the collection, transportation and processing of feedstocks.
- Initiate advanced engine development projects that use biomass transportation fuels.

Market Development Recommendations



- Study and recommend the most appropriate forms of state financial and non-financial assistance and other actions to support market development and commercialization activities should demonstration projects prove that biomass-to-ethanol projects are technically and economically feasible.

Further Study Needs Recommendations



- Develop a method to determine the cost and public benefits associated with developing biomass-to-ethanol and biomass to transportation fuels industry in California.



Where Do We Go From Here?

- Incorporate Today's Public & Committee Input and Revise Draft Report as Necessary.
- Release Suggested Changes and Revisions to October Report via Energy Commission's Web Site in early December
- Approve Final Report on December 15, 1999



And Finally,

■ Deliver Final Report
to Governor on New
Year's Eve!

For More Information about the report...



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